Abstract

CYCLE SYNCHRONIZATION BETWEEN INTERCONNECTED SUB-NETWORKS

A method to perform a cycle synchronization between interconnected sub-networks, in which a reference node connected to one of the sub-networks transmits a respective cycle time information to cycle masters of all other sub-networks at recurring time instants, and the cycle masters of all other sub-networks adjust their cycle time accordingly. An adjustment of the cycle time within a cycle master is performed by determining a first time interval (Δt_1, $\Delta t_1'$) in-between two receptions of cycle time information from the reference node with an own clock, determining a second time interval (Δt_2, $\Delta t_2'$) in-between two corresponding transmissions of cycle time information from the reference node on basis of the received cycle time information, comparing the first time interval (Δt_1, $\Delta t_1'$) and the second time interval (Δt_2, $\Delta t_2'$), and adjusting the own cycle length according to the comparison result.